

R.T. Patterson Company, Inc.

Engineers and Consultants

CLIENT

Aristeo Construction Company for
General Motors Powertrain
Bedford, IN

PROJECT

Refurbish and Upgrade Die Cast South Building



PROJECT SCOPE

General Motors was upgrading and refurbishing several 42-year-old Die Cast Buildings including replacing foundations for 2500 ton Die Cast Machines with ones for 4000-ton machines, which sit over a 30-foot-wide tunnel. All process equipment was removed, concrete, floor support steel, piping, HVAC and electrical systems were replaced.

RTP SCOPE OF WORK

RTP provided the following engineering services:

- Assist in the development of the Plant Layout for the new equipment in Die Cast South.
- Develop structural design drawings for:
 - Foundation and inertia blocks for 4000 Ton capacity Die cast machine (900,000 lb. dead weight) including support beams spanning 30-foot tunnel designed for limited deflection.
 - Foundation and inertia blocks for 200 Ton capacity Rollover Trim Press (220,000 lb. dead weight) with automatic die change trolley system, including support beams spanning 30-foot tunnel.
 - Tunnel roof/ process floor (30' wide x 800') long and footers at 1000 lb./sq ft.

RTP SCOPE OF WORK - Continued

- Oscillating scrap conveyor foundations.
- Incline scrap conveyor foundations.
- High load path and floor area for die cart (3000 lb./sqft).
- Conduit and pipe embed size and locations for die cast machines and automated die cast cells.
- Provided 3D models of work to client for master plant 3D model.
- On-site assistance with unknown abandoned foundations discovered during construction.
- Prepare specifications for equipment purchase, facility refurbishment and equipment installation.
- Provide design review and comments of building refurbishment.
- Specify building crane reach and tool path for changing 50 ton dies
- Review building crane replacement.
- Review placement of equipment near crane reach and travel path for interference.
- Provide on-site construction assistance.
- Provide coordination with other engineering firms and equipment OEMs for integrated design.
- Participate in Weekly design and construction meetings.

